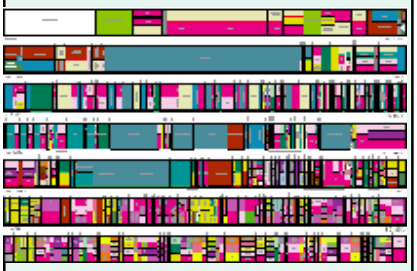

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The Washington SPECTRUM

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New FAA Order in Place

A new order on Electronic Counter Measures (ECM) has been established. Order 7610.11A, which replaces the previous order 7610.11 (May 19, 1989), revises procedures for coordinating Electronic Attack mission requests to ensure compatibility with National Airspace System (NAS) communications, navigation, and surveillance facilities and services. This revision updates the roles of responsible offices at the FAA Headquarters level and includes Global Positioning System (GPS) interference tests, which are normally conducted by Department of Defense (DOD) but may also be conducted by other federal agencies.

The offices of Air Traffic Planning and Procedures (ATP-1) and Spectrum Policy and Management (ASR-1) jointly sponsor this order. It applies to all levels of Spectrum Policy and Management, Air Traffic Procedures and Planning in Headquarters, the National Flight Data Center (NFDC), the Air Traffic Control System Command Center (ATCSCC), National Operations Control Center (NOCC), U.S. NOTAM office, regional Airway Facilities (AAF), and to Airway Facilities and Air Traffic field offices with a standard distribution.

Pictured from back left: Greg Wheeler (ACE), Oscar Alvarez (ASR-100), Alan Moore (AAF-1), Sam Moore (ATP), Fred Neudecker (ANW), and Rich Snow (MITRE)

Radiation Hazard (RADHAZ) Lab Classes

The Office of Spectrum Policy and Management (ASR) will be sponsoring two upcoming RADHAZ lab classes in conjunction with the NAS Technical Services Division (AMP-200). The classes are scheduled for May 15-17 and May 22-24 at the Mike Monroney Aeronautical Center in Oklahoma City. This training will provide techniques on how to perform the Ionizing and Non-Ionizing RADHAZ measurement procedures on the ASR-9 and ARSR-3, and the Non-Ionizing RADHAZ measurement pro-

cedures for the NARACS HF transmitter. Additionally, the training will include a tour to familiarize participants with other FAA systems / facilities (ASR-7, ASR-8, ARSR-1/2, ARSR-4, FPS-60 Series, ASDE, NAVAIDS & TDWR) and a demonstration of how to perform these measurement procedures on these systems / facilities.

Radio Frequency Interference (RFI) Classes

The Office of Spectrum Policy and Management (ASR) has scheduled four (4) RFI classes for this fiscal year. The first was conducted for personnel in Aviation System Standards (AVN) from March 13-22 at the William J. Hughes Technical Center. This is the third year AVN has participated in this training. The remaining RFI classes will be scheduled for May 8-15, June 19-26, and August 21-28.

Global Positioning System

With the growing importance of the role of the Global Positioning System (GPS) in the future National Airspace System (NAS) architecture, ASR has played an increasing part in the development and preservation of that resource. Initially deployed by the U.S. Air Force, the GPS satellite constellation provides civil users, including the FAA, with precise timing and 3-dimensional positioning. In addition to its current enroute service, accuracy and integrity improvements from the Wide Area Augmentation System (WAAS) and/or Local Area Augmentation System (LAAS) allows GPS to form the cornerstone of the next-generation NAS approach and landing system.

Recent ASR accomplishments regarding GPS have included: a) acting as FAA representatives on the U.S. team to the 2000 World Radiocommunication Conference that successfully deflected threats to GPS operating spectrum; b) taking a leadership role in the interagency process to define and develop new civil GPS signals; c) ensuring that proposed GPS modernization activities preserve "backward compatibility" with existing user equipment; d) working in national and international forums to ensure the necessary frequency allocations exist to support WAAS and LAAS; and e) ensuring that proposed new technology such as so-called "ultra-wideband" systems do not impact the proper operation of GPS. Completion of these efforts requires close coordination between ASR, the FAA and DOD satellite program offices, and the International Civil Aviation Organization Global Navigation Satellite System Panel.

FREQUENCY MANAGEMENT SEMINAR

Hyatt Regency Hotel
Baltimore, Maryland
June 5-7, 2001

This seminar will be the first opportunity to meet with our Frequency Management community since 1997. We will discuss the current policies and procedures for managing the aeronautical spectrum, review frequency engineering and assignment criteria, discuss radio frequency interference issues, and develop processes that will minimize impact to the National Airspace System.

VHF Air/Ground Initiatives

The Office of Spectrum Policy and Management, ASR, is addressing 23 regulatory, technical, and administrative initiatives to gain greater spectrum efficiency in the 118-137 MHz band. The improved spectrum efficiency is necessary to allow the FAA to support new enroute sectors, new runway construction, and many other airspace improvement programs associated with the increasing air traffic demands until the next generation air/ground communications system (NEXCOM) is implemented in 2009. Personnel from each of the regional frequency management offices, MITRE, the William J. Hughes Technical Center, Air Traffic, and ASR met in Clearwater, Florida, on February 6-8 to do an in-depth review of the 23 initiatives. Mr. Alan Moore, AAF-1, opened the seminar and encouraged participants to think "out of the box" in formulating creative solutions to current air traffic challenges. A preliminary assessment of the initiatives indicates the FAA will be able to extend the life of the current

AM band, 25 KHz air/ground communications system until NEXCOM is implemented. An initial NEXCOM Technical Seminar is scheduled to take place in Covina, California, from April 17-19. This seminar will develop strategies for the NEXCOM program and serve as a follow-up to the VHF Technical Seminar.

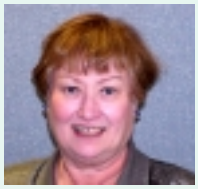
Ultra-Wideband Update

The debate over ultra-wideband (UWB) technology has not waned. The UWB issue now has the attention of many parts of the private sector, including the airline industry. ASR continues to address this issue in various forums, such as RTCA, Inc., the International Civil Aviation Organization, International Telecommunication Union working parties, the Interagency Governmental Executive Board, and the National Telecommunications and Information Administration (NTIA). Reports from NTIA on their assessment of compatibility between UWB devices and aeronautical systems (among others) have shown a potential for interference to several systems including airport surveillance radar, microwave landing systems, and other critical aeronautical safety services. NTIA recently released two more reports on the compatibility of UWB devices with the Global Positioning System (GPS) receivers. The report did not include a Technical Standard Order (TSO)-C129a compliant aviation receiver (currently used in enroute and non-precision approach applications); however, it will be included in an addendum. NTIA has submitted all of their reports to the Federal Communications Commission (FCC). The FCC and NTIA will use these reports and others to determine which UWB systems will be authorized and how they will be governed. ASR has supported all of NTIA's efforts in various ways.

ASR has received unreduced (raw) measurement data that it requested from NTIA on a Kohler residential toilet ventilation kit. We have reviewed the data to determine if we can support their requested waiver to allow the marketing of more than 5,000 units. The Kohler device has emissions that span the spectrum used by the microwave landing system (MLS) and the terminal doppler weather radar (TDWR). ASR has determined that the TDWR could potentially receive interference without modifications to the Kohler device. The results indicate that the Kohler device has a marginal impact on MLS while the TDWR will need a much greater level of protection. ASR has shared the results with Kohler and NTIA. ASR is not recommending an increase in the number of units Kohler can market unless they can sufficiently reduce the emission level of their device in the band 5600-5650 MHz. An information paper was submitted to AAF-1/2 and mitigation techniques will be discussed with Kohler very soon.

Gaskins, Buecheler Recognized

Loretta Gaskins



Phyllis Buecheler

Secretaries Loretta Gaskins, ASR-200, and Phyllis Buecheler, ASR-1, were recently recognized for their outstanding service during a prolonged time of secretarial shortage. Our congratulations and thanks to Loretta and Phyllis!

Oops!

The December issue of the Washington *SPECTRUM* incorrectly identified the winner of the 2000 Star of Excellence Award for Technical contribution. The winner of both the regional and national award was Fred Neudecker, ANM-473.

The Washington *SPECTRUM* is a quarterly publication of the Office of Spectrum Policy and Management. Please send all inquiries to:

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Significant Activities

The Office of Spectrum Policy and Management (ASR) Participates in Wireless Airport Association (WAA) Inaugural Meeting

A representative from ASR participated in the inaugural meeting of the WAA in Los Angeles, California. The WAA was formed as a joint effort of the American Association of Airport Executives, the Air Transport Association, and the Airports Council International - North America. The organization is dedicated to the expansion of state-of-the-art wireless services at airports. These services include wireless internet access and personal communications services to passengers in the terminal environment, as well as wireless services for airport tenants, including the issuing of boarding passes, curbside baggage checks, and wireless computer terminals on plane side baggage carts. During the FAA portion of the "Wireless Models" panel discussion, there was a general description of the FAA's frequency management process, RFI resolution efforts, and the Obstruction Evaluation/Airport Airspace Analysis Federal Aviation Regulation (Part 77) process. A special emphasis was placed on the need for a coordinated effort to ensure that the FAA communications, navigation, and surveillance systems do not receive interference from wireless airport systems and, likewise, that wireless systems are able to operate properly in the airport environment.

Minimum Operational Performance Standards (MOPS) Development for the Universal Access Transceiver (UAT)

Personnel from ASR participated in a February 20-23 meeting of RTCA, Inc., Special Committee 186 Working Group 5, charged with drafting MOPS for the UAT. ASR participation in this group is imperative since there are several unresolved spectrum issues. Most important of these issues is the frequency selection for the UAT, which has not been completed. Other issues include compatibility with existing systems (e.g., Distance Measuring Equipment, and the military Joint Tactical Information Distribution System). Analysis/test efforts are underway to both improve the robustness of the UAT and to examine the effects of UAT transmissions on existing systems. ASR is playing a key role in addressing these compatibility issues, while maintaining the constraint of ensuring cost-effective user equipment.

The Office of Spectrum Policy and Management (ASR), Participates in Second Meeting of the NEXCOM Aviation Rulemaking Committee (ARC)

The NEXCOM ARC was established by the Administrator to address issues associated with implementing the NEXCOM system. It is headed up by Mr. John Kern (previously with Northwest Airlines, now retired) and includes representatives from industry and the FAA. Its report is due to the Administrator by April 30. ASR briefed the group on the status of the regulatory, technical, and administrative actions that seek to extend the life of the current very high frequency air/ground communications system (the "23 actions items") until NEXCOM is implemented. ASR also addressed the frequency resources needed to satisfy the needs of the Administrator's "choke points" initiative. The next meeting of the NEXCOM ARC is scheduled for April. At that meeting, ASR will brief on the progress of the "23 action items" and other spectrum activities that impact the NEXCOM program.

Watch for the next edition of the Washington SPECTRUM online at: www.faa.gov/ats/aaf/asr

Significant Activities

Real Time Spectrum Monitoring and Interference Detection Demonstration Given to the Air Traffic Systems Requirements Service

Personnel from ASR provided a real-time demonstration to the Air Traffic Systems Requirements Service, ARS, on the Interference Monitoring and Detection System (IMDS). The demonstration was part of a briefing on the overall ASR initiatives to implement a nation-wide spectrum monitoring and interference detection system. These initiatives are being pursued to protect the Global Positioning System (GPS) signal as well as all other spectrum utilized by aviation's communication, navigation and surveillance (CNS) systems. The briefing included a description of all the IMDS platforms currently in use and under future planning. The live demonstration included real-time remote control of data and audio collection from Washington, D.C. of two of the Western-Pacific Spectrum Management's fixed IMDS sites located in the Los Angeles, California area.

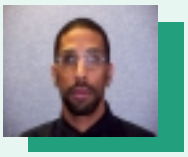
http://www.faa.gov/ats/aaf/asr

Spectrum Initiatives Presented at the International Air Transport Association (IATA) Workshop

Personnel from ASR participated in a Spectrum Management Workshop sponsored by IATA that took place in Clearwater, Florida on February 19-20. The purpose of the workshop was to raise awareness among airline executives on the various aeronautical spectrum issues that will be discussed at the 2003 World Radiocommunication Conference (WRC-2003) and why it is important for the airlines' top management to get involved. ASR briefed the group on some of the initiatives the FAA is working on in preparation for the WRC-2003.

The Office of Spectrum Policy and Management (ASR) Participates in RTCA Special Committee 198 (SC-198)

On March 6, ASR participated in the first meeting of the new RTCA SC-198. This committee has been established to consider issues which need to be resolved in support of implementation of the Next Generation Air/Ground Communications System (NEXCOM). In particular, the group will be preparing a response to the "Report of the RTCA Chairman's Committee on NEXCOM," and will be developing a "Principles of NEXCOM Operations" for the program. ASR accepted the action to draft a response to the RTCA Chairman's Committee recommendation that the FAA lead an "analysis of frequency spectrum needs" for air traffic control voice communications. This draft will include mitigation actions (such as the "23 actions items") which the FAA is implementing to extend the spectrum life of the current system. ASR will continue to play a key role in the work of RTCA SC-198.



Rodney Murphy Joins ASR-100

The Office of Spectrum Policy and Management welcomes Rodney Murphy to its ASR-100 Division. Rodney joined the ASR headquarters staff on December 4, 2000. Previously, he had been working as an Airway Transportation Systems Specialist in the Golden Gate Airway Facilities SMO at Oakland SSC in Oakland, California. Rodney's responsibilities include the handling of frequency management issues for the land-mobile, microwave, and satellite bands. In addition, projects include narrowbanding of land-mobile UHF/VHF spectrum, frequency assignment and engineering for various systems (LLWAS, LDRCL, and Generic RMS).

Interference Monitoring Detection System (IMDS) Program

Part 1 of an Ongoing Series

By: James S. Avilés, ASR-100

Oscar Alvarez, manager, ASR-100

Oscar Alvarez, manager, ASR-100, has been evaluating the nationwide concept and networking of the IMDS system along with its historical development. There is hope that IMDS will be part of the National Airspace System (NAS), leading the world in Radio Frequency Interference (RFI) in aviation.

The concept of a national program was being pursued in the 1990s. During this decade, our regional frequency management partners established two initial Nodes: the Chicago Fixed Node (STX system) and the Los Angeles Fixed Node (SMART DF System). The Los Angeles SMART DF System is proving to be the most capable and effective. This Node continues to enhance its development and capabilities.

In the meantime, several capability projects for different IMDS platforms that are used to combat RFI in the 1990's have emerged:

(1) The K95-101/102 series handheld. These systems will become part of the Handheld IMDS (HIMDS) platform.

(2) The Radio Frequency Interference Detector (RFID) portable. This system will become a module of the Portable IMDS (PIMDS) platform.

(3) The Radio Frequency Interference Monitor (RFIM) van system for ground transportable capabilities. This system will be part of the Transportable IMDS (TIMDS).

(4) The Navigational Aids Signal Evaluator (NASE) / RFI system for airborne capability. This will be part of the Airborne IMDS (AIMDS).

Screenshot of the IMDS software triangulating a geographic area to pinpoint the source of interference.

ASR Vacancy Updates

Deputy Program Director, ASR-2

The selection for the Deputy Program Director's position, ASR-2, has been delayed due to the hiring restrictions on supervisory positions. Detail assignments continue until the restriction on hiring is lifted and approval is received to proceed with the selection process. This position has been vacant since August 2000.

Electronics Engineer, ASR-200

The job announcement closed on March 22, 2001 for the position of Electronics Engineer FG-855-12/13/14 in the Spectrum Planning and International Division, ASR-200. The selection process is underway.

Federal Aviation Administration
Office of Spectrum Policy and Management
ASR

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Robert Frazier

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Spectrum Assignment and Engineering Division
Oscar Alvarez

Spectrum Planning and International Division
Donald Willis